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PATENT ABSTRACTS OF JAPAN

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(71)Applicant : TOYO ENG CORP

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(54) PRODUCTION OF EXPANDABLE POLYMER PARTICLE

(57)Abstract:

PURPOSE: To obtain expandable polymer particles having a controlled content of carbon dioxide by removing the residual volatile matter from a polymer by bringing the polymer into contact with carbon dioxide in a nearly supercritical or critical state.

CONSTITUTION: A polymer containing 1-30 pts.wt. carbon dioxide per 100 pts.wt. polymer is produced by feeding a powdery, bead-like or pelletized polystyrene polymer having a residual volatile matter concentration of 300ppm or above, or a liquid composition or the like containing a polystyrene polymer having a residual volatile matter concentration of 3000-5000ppm into an extractor, pouring a lower hydrocarbon compound, an alcohol or a mixture thereof into the extractor, blowing carbon dioxide into the mixture, keeping the temperature in the extractor at about 150° and the pressure at 50-500kg/cm².G, and keeping the whole system for 4hr in this state. A die is set on the polymer exit of the extractor or another tank to extrude the polymer melt through this die into a cooled pressurized solution in which the polymer is not soluble at 0-90°C and a pressure of 5-100kg/cm².G to form a rod. The rod is cut into pieces of a specified length, separated, recovered from the cooled solution, and dried.